

Title (en)

Electrochemical reduction of copper seed for reducing voids in electrochemical deposition

Title (de)

Elektrochemische Reduktion von Kupferkeimschichten zur Reduzierung von Leerstellen in einer elektrochemischen Abscheidung

Title (fr)

Réduction électrochimique de couches de germination en cuivre pour réduire des vides dans une déposition électrochimique

Publication

EP 1229580 A2 20020807 (EN)

Application

EP 02100088 A 20020130

Priority

US 26585701 P 20010201

Abstract (en)

An improved method for forming a copper layer (100). After the copper seed layer (116) is formed, any oxidized copper (118) at the surface is electrochemically reduced back to copper rather than being dissolved. Copper (120) is then electrochemically deposited (ECD) over the intact seed layer (116). <IMAGE>

IPC 1-7

H01L 21/768

IPC 8 full level

C25D 5/34 (2006.01); **C25D 7/12** (2006.01); **H01L 21/28** (2006.01); **H01L 21/288** (2006.01); **H01L 21/3205** (2006.01); **H01L 21/768** (2006.01); **H01L 23/52** (2006.01)

CPC (source: EP US)

C25D 5/34 (2013.01 - EP US); **C25D 7/123** (2013.01 - EP US); **H01L 21/2885** (2013.01 - EP US); **H01L 21/76843** (2013.01 - EP US); **H01L 21/76861** (2013.01 - EP US); **H01L 21/76873** (2013.01 - EP US)

Citation (examination)

WO 9947731 A1 19990923 - SEMITool INC [US], et al

Cited by

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US 2002100693 A1 20020801; EP 1229580 A2 20020807; EP 1229580 A3 20030326; JP 2002289559 A 20021004

DOCDB simple family (application)

US 6283902 A 20020130; EP 02100088 A 20020130; JP 2002003229 A 20020110